IN THE CLAIMS:

Please substitute the following claims for the same-numbered claims in the application:

1-7.   (Cancelled).

8.   (Currently Amended) A method of allocating supply items from a supply chain network using a production planning system, said method comprising:

inputting a customer order comprising part numbers and a customer location;

deriving a demand item from said customer order, said demand item comprising a part number of said part numbers and said customer location;

exploding said demand item through said supply chain network, said exploding comprising [[to]] identifying in said supply chain network a set of stocking points for said part number that have shipping routes connected to said customer location;

imploding said demand item through said set of stocking points to:, said imploding comprising:

identifying active stocking points, said active stocking points comprising ones of said stocking points in said set of stocking points that have the current ability to supply said part number as active stocking points; and

identifying inactive stocking points, said inactive stocking points comprising ones of said stocking points in said set of stocking points that do not have the current ability to supply said part number as inactive stocking points;

removing said inactive supply stocking points from said set of stocking points to <u>form a set of active stocking points</u> ~~allow only active stocking points to remain~~ ; and

allocating said active stocking points <u>in said set of active stocking points</u> to said customer order using said production planning system to produce a material allocation plan.

9.   (Original) The method in claim 8, further comprising repeating said method for different customer orders.

10.   (Original) The method in claim 8, wherein said exploding process considers substitutes for said part number.

11.   (Original) The method in claim 8, wherein said imploding considers available inventory of said part number, capability to manufacture said part number, and scheduled future delivery of said part number.

12.   (Original) The method in claim 8, wherein said exploding and imploding processes are carried out recursively.

13.   (Original) The method in claim 8, wherein said exploding and imploding processes reduce the amount of data that is processed by said production planning system in said allocating process.

14.   (Currently Amended) The method in claim 8, further comprising:

deriving additional demand items from said customer order, each of said additional demand items comprising a different part number of said part numbers and said customer location; and

repeating said exploding and said imploding for said additional demand items derived from said customer so that said set of active stocking points comprises all active stocking points for said customer order order to produce set of active stocking points.

15.   (Currently Amended) A method of allocating supply items from a supply chain network using a production planning system, said method comprising:

inputting a customer order comprising part numbers and a customer location;

deriving a demand item from said customer order, said demand item comprising a part number of said part numbers and said customer location;

exploding said demand item through said supply chain network, said exploding comprising [[to]] identifying in said supply chain network a set of stocking points for said part number that have shipping routes connected to said customer location;

imploding said demand item through said set of stocking points to:, said imploding comprising:

identifying active stocking points, said active stocking points comprising ones of said stocking points in said set of stocking points that have the current ability to supply said part number as active stocking points; and

identifying inactive stocking points, said inactive stocking points comprising ones

of said stocking points <u>in said set of stocking points</u> that do not have the current ability to supply said part number <s>as inactive stocking points</s>;

removing said inactive supply stocking points from said set of stocking points to <u>form a set of active stocking points</u> <s>allow only active stocking points to remain</s>;

deriving additional demand items from said customer order, each of said additional demand items comprising a different part number of said part numbers and said customer location;

repeating said exploding and said imploding for said additional demand items derived from said customer <u>so that said set of active stocking points comprises all active stocking points for said customer order</u> <s>order to produce set of active stocking points</s>; and

allocating said active stocking points <u>in said set of active stocking points</u> to said customer order using said production planning system to produce a material allocation plan.

16.   (Original) The method in claim 15, further comprising repeating said method for different customer orders.

17.   (Original) The method in claim 15, wherein said exploding process considers substitutes for said part number.

18.   (Original) The method in claim 15, wherein said imploding considers available inventory of said part number, capability to manufacture said part number, and scheduled future delivery of said part number.

19.   (Original) The method in claim 15, wherein said exploding and imploding processes are carried out recursively.

20.   (Original) The method in claim 15, wherein said exploding and imploding processes reduce the amount of data that is processed by said production planning system in said allocating process.

21.   (Currently Amended) A program storage device readable by machine, tangibly embodying a program of instructions executable by the machine to perform a method of allocating supply items from a supply chain network using a production planning system, said method comprising:

        inputting a customer order comprising part numbers and a customer location;

        deriving a demand item from said customer order, said demand item comprising a part number of said part numbers and said customer location;

        exploding said demand item through said supply chain network, said exploding comprising [[to]] identifying in said supply chain network a set of stocking points for said part number that have shipping routes connected to said customer location;

        imploding said demand item through said set of stocking points to:, said imploding comprising:

                identifying active stocking points, said active stocking points comprising ones of said stocking points in said set of stocking points that have the current ability to supply said part

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number ~~as active stocking points~~; and

identif<u>ying inactive stocking points, said inactive stocking points comprising</u> ones of said stocking points <u>in said set of stocking points</u> that do not have the current ability to supply said part number ~~as inactive stocking points~~;

removing said inactive supply stocking points from said set of stocking points to <u>form a set of active stocking points</u> ~~allow only active stocking points to remain~~; and

allocating said active stocking points <u>in said set of active stocking points</u> to said customer order using said production planning system to produce a material allocation plan.